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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/038,501 | 01/03/2002 | Robert C. Sundahl | 5038-151 | 5497 |

7590 12/14/2004

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1030 SW Morrison Street
Portland, OR 97205

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| EXAMINER |
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NGUYEN, KEVIN M

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| ART UNIT | PAPER NUMBER |
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2674

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,501

Applicant(s)

SUNDAHL ET AL.

Examiner

Kevin M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 25-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Group I, Claim 1-24 in the reply filed on 09/01/2004 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Cathey et al (US 6,255,769).

4. As to claim 1, Cathey et al teaches a display device comprising

A field emission display 100 (a panel, fig. 6) having a faceplate 110 (a viewing side, fig. 6), and a base plate 152 (a non-viewing side, fig. 6).

Fig. 8 discloses a baseplate 152 including a peripheral region, and a central region bounding by a microneedle assembly 190.

As to claims 2, 3, 4, Cathey teaches the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32) which are defined a printed circuit board and an integrated circuit as claimed.

As to claim 5, Cathey reviews "the faceplate 60 also has spacers 63a and 63b on opposite sides of the anode 64 and the cathodoluminescent film 66. A number of leads 80 (only one shown on each side) coupled to the drive circuitry (not shown) extend to the spacers 63a and 63b, and each lead 80 has a connector pad 82 and a raised feature 84 positioned on one of the spacers 63a or 63b (col. 2, lines 22-28).

As to claims 6, 7, 8, Cathey teaches holes 314 (sockets, fig. 10) coupling to the raised features (the pattern of contacts, fig. 10) and structured to receive a component in the central zone (see fig. 10).

As to claim 9, Cathey reviews a dielectric layer 40 (prior art, fig. 1). Cathey further teaches the faceplate 110 (a display contact, fig. 6), the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32) "corresponding to an electrically conductive circuit layer including the pattern of contacts."

As to claims 10-13, Cathey teaches "each baseplate 150 has emitters 156, emitter sets 158, and bond pads 154 as discussed above with respect to FIG. 5. Before the baseplates 150 are separated from one another by cutting the wafer 151, a large screen 185 having a number of applicator holes 184 is used to screen print the thick film conductive material onto the bond pads 154 substantially simultaneously. In this embodiment of the invention, the applicator holes 184 are configured on the large

screen 185 to correspond to the pattern of bond pads 154 across the entire surface of the wafer 151" (col. 6, lines 8-17).

5. As to claim 14, Cathey et al reviews a display device comprising

A field emission display 10 (a panel, fig. 3) includes an anode 64 and cathodoluminescent film 66 (a plurality of display cell, fig. 3) on a faceplate 60 (a first side of panel, fig. 3);

An emitter substrate 30 (fig. 3) corresponds to a second side of the panel.

Fig. 3 discloses the emitter substrate 30 (fig. 3) including a peripheral region, and a central region bounding by a microneedle assembly 190.

Fig. 3 is an exploded to the components described above in figs 1 and 2, the baseplate 20 also has a plurality of bond pads 36 in or on the emitter substrate 30 such that each bond pad 36 is coupled to an end of a column interconnect 37 to provide contact points for the drive circuitry of a particular column of emitter sets 33 (col. 2, lines 11-18).

As to claim 15, Cathey et al reviews "Referring to FIG. 2, for example, a row signal along row R2 of the extraction grid 50 and a column signal along column C1 of the emitter substrate 30 activates the emitter set 33 at the intersection of row R2 and column C1" (col. 1, lines 62-65).

As to claim 16, Cathey et al reviews the driver circuitry (not shown, col. 1, lines 58).

As to claim 17, Cathey et al reviews "the raised features 84 are formed in a pattern corresponding to the pattern of bond pads 36 in the baseplate 20. The leads 80

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and connector pads 82 are typically aluminum traces having a thickness of 12-20 μm , and the raised features 84 are typically 20-50 μm points formed by individually pinching the aluminum of the connector pads 82" (col. 2, lines 28-33).

6. As to claim 18, Cathey et al reviews a display device comprising

Field emission displays ("FEDs") are flat panel displays for use in computers, television sets, instrument displays, and camcorder viewfinders defined a display interface coupling to an image generator (col. 1, lines 21-23).

A field emission display 10 (a panel, fig. 3) includes a faceplate 60 (fig. 3) corresponding to a first side of panel, and an emitter substrate 30 (fig. 3) corresponds to a second side of the panel.

Referring to FIG. 2, for example, a row signal along row R2 of the extraction grid 50 and a column signal along column C1 of the emitter substrate 30 activates the emitter set 33 at the intersection of row R2 and column C1" (col. 1, lines 62-65). Rows and columns defined the matrix of interconnects structure.

As to claims 19, 20, Cathey teaches a plurality of components (222, 312, 314, fig. 10) is connected to the panel with the periphery (see fig. 10).

As to claims 21, 22, 23, Cathey teaches the connector pads 124 and the bond pads 154 define bonding locations or sites at which conductive raised features or coupling elements may be formed to couple the leads 122 on the faceplate 110 to corresponding rows or columns of emitter sets 158 on the baseplate 150 (col. 4, lines 28-32) which are defined a printed circuit board and an integrated circuit as claimed.

As to claim 24, Cathey et al reviews the driver circuitry (not shown, a video driver, col. 1, lines 58) interposed between the display interface and the matrix of interconnects (see fig. 3).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

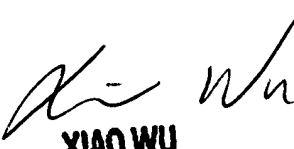
Application/Control Number: 10/038,501

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Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KN
December 9, 2004


XIAO WU
PRIMARY EXAMINER